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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,891	12/02/2003	John Humphreys	3220-73872	3355

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EXAMINER	
VENCI, DAVID J	

ART UNIT	PAPER NUMBER
1641	

DATE MAILED: 11/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/725,891	HUMPHREYS, JOHN	
	Examiner	Art Unit	
	David J. Venci	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *September 29, 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6-13,15-18,20,21,30 and 31* is/are pending in the application.

4a) Of the above claim(s) *1-4,6-12 and 30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13,15-18,20,21 and 31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *1-4,6-13,15-18,20,21,30 and 31* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action is withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 29, 2006, is entered. No claim amendment is made.

Claims 1-4 and 6-12 remain withdrawn from consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Invention. In addition, claim 30 was withdrawn from consideration in the Office Action dated November 21, 2005, as being directed to a non-elected invention.

Currently, claims 13, 15-18, 20-21 and 31 are under examination.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112 – first paragraph

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Specifically, Examiner is unable to locate antecedent support for a "picomolar" concentration parameter in the specification, as originally filed. Thus, a "picomolar" concentration parameter appears to be new matter.

Applicant is required to cancel the new matter in response to this Office Action.

Claim Rejections - 35 USC § 112 – second paragraph

Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 31, the phrase "is present" is indefinite. The solution space encompassed by "is present" is not clear.

Claim Rejections - 35 USC § 103

Claims 13, 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark & Waterman, 206 METHODS ENZYMOL. 100 (1991), in view of Kay (US 3,789,116).

Clark & Waterman describe a method for quantifying a P450 protein (see p. 107, *Quantitation of Expressed P450 Protein in COS 1 Cells*) comprising:

1. providing a recombinant P450 protein (see Title, Heterologous Expression of Mammalian P450 in COS Cells) comprising an epitope (see p. 107, *Quantitation of Expressed P450 Protein in COS 1 Cells*, fifth sentence, "immunoblot analysis"); and

4. quantifying the detectably labeled P450 protein (see p. 107, *Quantitation of Expressed P450 Protein in COS 1 Cells*, fifth sentence, "quantitation of P450 expression is most readily approximated by immunoblot analysis")

Clark & Waterman do not teach a method incorporating:

2. a labeled ligand that directly binds to the P450 protein epitope; and

3. directly detecting the labeled ligand that is bound to the P450 protein.

However, Kay describes the use of labeled antibodies (see Title) that directly bind to epitopes (see Abstract, first sentence, "exceptionally specific to a given antigen"). In addition, Kay describes a step of directly detecting labeled ligands bound to epitopes (see col. 1, lines 26-29, "the labeled antibody will attach itself to that antigen. The presence of the antigen can then be confirmed through detection of the labeling agent in the sample").

It would have been obvious for a person of ordinary skill to practice the method for quantifying a P450 protein, as described by Clark & Waterman, with labeled ligands that directly bind to epitopes because Kay discovered that such ligands afford "superior sensitivity" (see col. 1, line 66) and "excellent fluorescent characteristics including both brightness and color" (see col. 2, lines 20-24).

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark & Waterman, 206 METHODS ENZYMOL. 100 (1991), and Kay (US 3,789,116), as applied to claim 13, *supra*, and further in view of Hopp & Prickett (US 4,851,341).

Clark & Waterman and Kay describe a method for quantifying a P450 protein as substantially described, *supra*, and incorporated herein.

Clark & Waterman and Kay do not teach "a non-native" epitope. Clark & Waterman and Kay do not teach an "amino terminus" epitope. Clark & Waterman and Kay do not teach an epitope comprising the sequence recited in claim 16.

However, Hopp & Prickett describe the use of FLAG® tags (see Abstract) for purifying (see Title) and detecting (see col. 6, lines 27-28, "Western immunoblots") recombinant proteins.

It would have been obvious for a person of ordinary skill to modify the method for quantifying a P450 protein, as described by Clark & Waterman and Kay, with a FLAG® tag because Hopp & Prickett developed a system that "provides superior identification and purification performance" (see col. 2, lines 56-57) while avoiding "use of affinity elution methods employing high salt, low pH, or chaotropic agents, which may be irreversibly denaturing" (see col. 3, lines 23-25).

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Clark & Waterman, 206 METHODS ENZYMOL. 100 (1991), and Kay (US 3,789,116), as applied to claims 13 and 18, *supra*, and further in view of Amersham Pharmacia Biotech, *What's new,* Life Science News 4 (2000), *available at* <http://www4.amershambiosciences.com>.

Clark & Waterman and Kay describe a method for quantifying a P450 protein as substantially described, *supra*, and incorporated herein.

Clark & Waterman and Kay do not teach a phosphor autoradiography imager.

However, Amersham Pharmacia Biotech teaches the use of a phosphor autoradiography imager (see Title, "Typhoon 860 Variable Mode Imager") for scanning gels, blots and phosphor screens (see seventh bullet).

It would have been obvious for a person of ordinary skill to perform the method of quantifying a P450 protein, as taught by Clark & Waterman and Kay, with a phosphor autoradiography imager because Amersham Pharmacia Biotech discovered that phosphor autoradiography imagers enable "direct chemiluminescence imaging without intermediate exposures to films or screens" (see sixth bullet).

Response to Arguments

Claim Rejections - 35 USC § 112 – first paragraph

In prior Office Action, claim 31 was rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Specifically, Examiner was unable to locate a "picomolar" concentration parameter in the specification, as originally filed. Thus, a "picomolar" concentration parameter appears to constitute new matter.

In response, Applicant alleges support for a "picomolar" concentration parameter in paragraph [0042] and Table 1 of the instant patent application publication US 2004/0137643 (see specification, p. 12, last paragraph; Table 1).

Applicant's argument is not persuasive. Applicant's specification paragraph [0042] and Table 1 reference a "pmol μL^{-1}" concentration parameter. Examiner posits that "picomolar" ≠ "pmol μL^{-1}".

Prior Art Claim Rejections

In prior Office Action, claims 13, 15 and 21 were rejected under 35 U.S.C. 102(b) as being anticipated by Yabusaki et al. (US 5,436,159). Claim 16 was rejected under 35 U.S.C. 103(a) as being unpatentable over Yabusaki et al. (US 5,436,159) in view of Hopp & Prickett (US 4,851,341). Claims 17-18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Yabusaki et al. (US 5,436,159) and Hopp & Prickett (US 4,851,341), as applied to claims 13 and 15-16, and further in view of Kay (US 3,789,116). Finally, claim 20 was rejected under 35 U.S.C. 103(a) as being unpatentable over Yabusaki et al. (US 5,436,159), Hopp & Prickett (US 4,851,341), and Kay (US 3,789,116) as applied to claims 13 and 18, and further in view of Amersham Pharmacia Biotech, *What's new,* Life Science News 4 (2000), *available at* <http://www4.amershambiosciences.com>.

In response, Applicant appears to argue that Yabusaki *et al.* do not describe a "labeled" ligand (see Applicant's reply, paragraph bridging pp. 3-4). In addition, Applicant argues that Yabusaki *et al.* do not describe the step of "directly detecting the labeled ligand" (see Applicant's reply, p. 4, first full paragraph).

Applicant's arguments have been carefully considered and are fully persuasive and sufficient to overcome these rejections. Accordingly, these rejections are withdrawn.

With respect to Applicant's comments concerning the teachings of Kay, Examiner acknowledges Applicant's assertions regarding the alleged differences in sensitivity between Applicant's method versus Kay's method.[1,2] However, Applicant's invention, *as claimed*, does not appear patentably distinguishable from the prior art because Examiner is unable to perceive any procedural or structural difference between claim 13 and the combined teachings of the cited prior art. The combined teachings of the prior art (i.e., Clark & Waterman and Kay) appear to fully describe each and every method steps recited in claim 13.

With respect to Applicant's comments concerning the teachings of Amersham Pharmacia Biotech, Examiner observes that Applicant's invention (*i.e.*, claim 13) does not require fluorescence-based detection. Nevertheless, Amersham Pharmacia Biotech describe a device compatible with both chemiluminescence (see sixth bullet) and fluorescence detection (see fourth bullet).

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[1] Examiner is unable to locate any passage in the teachings of Kay suggesting that Kay intended to exclude "quantitative" uses from Kay's invention (see Applicant's reply, p. 7, "[t]he examples provided in Kay demonstrate his vision that this technology was a qualitative (not quantitative) approach").

[2] Since the rejection of claims 13, 18 and 21, *supra*, is based on *the combined* teachings of Clark & Waterman and Kay, one should avoid arguing against the teachings of a reference (*e.g.*, Kay) individually or in isolation. *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

No claims are allowed at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Venci whose telephone number is 571-272-2879. The examiner can normally be reached on 08:00 - 16:30 (EST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

David J Venci
Examiner
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